Balancing Equations and Stoichimetry CP Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Balance each of the following reactions with the proper coefficients.

1. Fe(OH)3 + H2SO4 🡪 Fe2(SO4)3 + H2O
2. Zn + S8 🡪 ZnS
3. NH4NO3 🡪 N2O + H2O
4. Sn + HF 🡪 SnF2 + H2
5. NH3  + O2 🡪 N2 + H2O
6. Al + Pb(NO3)2 🡪 Al(NO3)3 + Pb
7. H2O 🡪 H2  + O2
8. N2H4 + H2O 🡪 N2 + H2O
9. SiO2 + HF 🡪 SiF4  + H2O
10. Al + Fe2O3 🡪 Al2O3 + Fe
11. Given the following equation:

2Ca + O2 🡪 2CaO

If the reaction is started with 50 moles of calcium, calculate the moles of calcium oxide produced.

1. Given the following equation:

Mg + 2HF 🡪 MgF2 + H2

If the reaction is started with 2 moles of hydrogen, calculate the moles of HF.

1. Given the following equation:

2Sb + 3Cl2  🡪 2SbCl3

If the reaction is started with 12 moles of antimony, calculate the moles of chloride.

1. Given the following equation:

4KClO3 🡪 KCl + 3KClO4

If the reaction is started with 7 moles of potassium chlorate, calculate the moles of KCl.

1. Given the following equation:

Ca + 2H2O 🡪 Ca(OH)2 + H2

If the reaction is started with 14 moles of water, calculate the moles of calcium hydroxide.

1. Sodium bromide reacts with calcium hydroxide to produce sodium hydroxide and calcium iodide.
2. Write the balanced equation for the reaction.
3. If the above reaction is started with 10 moles of calcium hydroxide, calculate the moles of sodium hydroxide produced.
4. Using your answer from part B, calculate the amount of grams of sodium hydroxide.
5. Given the balanced equation, show the following molar ratios:

2C4H10 + 13O2 🡪 8CO2 + 10H2O

1. O2 / H2O
2. C4H10 / CO2